



HOVENSA, LLC

EPA ID Number: VID980536080

Other (Former) Names of Site

Formerly Hess Oil Virgin Islands Corporation (HOVIC). On October 30, 1998 Amerada Hess Corporation, the parent company of HOVIC, and Petroleos de Venezuela, S.A. (PDVSA) formed a new corporation named HOVENSA LLC, which acquired ownership and operational control of the HOVIC facility.

Site Description

The HOVENSA facility ("the facility") is located at Limetree Bay, St. Croix, U.S. VI. It is a petroleum refinery covering 1,500 acres in what is known as South Industrial Complex, on the south central coast of St. Croix.

Operations at the facility began in 1965 under HOVIC. The facility's current design capacity is 545,000 barrels (1 barrel = 42 gallons) of crude oil per day. Over 60 different types of crude oil have been processed at the facility. By means of distillation, crude oil is separated into various components. Light ends (fuel gas) are sent to the facility's fuel system; naphtha, jet fuel, kerosene and No. 2 oil are further processed to remove sulfur.

Land use north, east and west of the site is varied including commercial, residential and some light agriculture. The Caribbean Sea forms the southern border of the facility. HOVENSA operates a 45 to 60 foot deep harbor which can accommodate super tankers at two of the nine berths. All transportation of crude and finished products is accomplished by means of tanker ships.

Site Responsibility

Cleanup at this site is being addressed by the U.S. Environmental Protection Agency (EPA), under authority of the of the Resource Conservation and Recovery Act (RCRA).

Threats and Contaminants

As a result of past leaks from process and storage areas, extensive phase separated petroleum hydrocarbon (PSPH) plumes (also known as "oil") are present floating on top of the groundwater underlying the facility, and dissolved phase hydrocarbon constituent (DPHC) plumes are present within the groundwater itself.

Although shut-in [i.e., not currently utilized] drinking water wells are present at the Barren Spot well field, located just north of the HOVENSA facility, there is little potential for a threat to drinking water supplies since the Barren Spot wells are hydraulically upgradient of HOVENSA. Nevertheless, any threat from HOVENSA would be detected by a series of monitoring wells located along HOVENSA's northern perimeter, which are sampled semi-annually to see if dissolved phase hazardous constituents or free oil are present. In addition, an ongoing program of leak detection and repair is designed to prevent or minimize further releases.

Cleanup Status/Corrective Action

The site is being addressed by HOVENSA, under EPA oversight, pursuant to requirements in the facility's 1999 Resource Conservation and Recovery Act (RCRA) Operating Permit.

Response Action Status

Interim Corrective Measures

A major facility-wide Interim Corrective Measure (ICM), referred to as the "Hydrocarbon Recovery Project" (HRP), is on-going. Based on the most recent HRP semi-annual report (February 2004), over 40.067 million gallons (953,978 barrels) of PSPH have been recovered and recycled back into the facility's process stream. An estimated 2.94 million gallons (70,000 barrels) of PSPH currently remain on the groundwater underlying the facility, and are currently subject to active recovery efforts under the HRP. New delineation of past, or ongoing, releases of PSPH may add to the estimated volume of PSPH that remains floating on the groundwater. As part of the ICM, groundwater is monitored for both PSPH and DPHC in wells located along the facility's perimeter, and off-site migration is prevented through a program of maintaining hydraulic control by means of active ground water pumping.

Entire Site

A rigorous program of groundwater monitoring (and if required corrective action) is implemented at the Facility's two operating hazardous waste land treatment/disposal units, three non-hazardous wastewater treatment Surface Impoundments, and the one closed Hazardous Waste Management Unit. No site-wide clean-up of DPHCs within the groundwater, emanating from and/or associated with the PSPH plume(s) has yet been required; however, the DPHC plumes are being contained on the HOVENSA property through "hydraulic control", maintained by active groundwater pumping.

Cleanup Progress

EPA first became aware of the underground oil plumes at HOVENSA (formerly Hess Oil Virgin Islands Corp. [HOVIC]) in 1982. HOVIC commenced limited hydrocarbon [oil] recovery activities in 1982. Since 1987 HOVIC has operated a facility-wide groundwater and hydrocarbon recovery system to clean-up the underground oil plumes. Continued operation of the facility-wide groundwater and hydrocarbon recovery system is required

under its 1999 RCRA operating permit.

HOVENSA has acceptably demonstrated to EPA, by groundwater modeling studies and monitoring well data, that the hydrocarbon recovery system maintains hydraulic control along the boundaries of the facility, and prevents off-site migration of not only underground oil, but also any dissolved constituent plumes in the groundwater itself. The hydraulic control is continuously maintained and monitored.

The most recent semi-annual status report (February 2004) on HOVENSA's hydrocarbon recovery program required under its RCRA Permit indicates that, as of December 2003, HOVENSA, under EPA oversight:

- has recovered 40.067 million gallons (953,978 barrels [1 barrel = 42 gallons]) of the released underground oil, with an estimated 2.94 million gallons (70,000 barrels) of oil currently remaining underground, but being hydraulically contained so as to prevent migration off the HOVENSA site, while continuing to be actively recovered;
- operates 120 active conventional (pumping) recovery wells, whose purpose is to recover the underground oil and dissolved constituents in the groundwater and prevent their off-site migration;
- operates 9 vapor extraction wells, which in addition to recovering underground oil and dissolved constituents in the groundwater, also recovers petroleum vapors and free oil located in the soils above the water table;
- maintains 489 monitoring and oil observation wells, which gauged on a bi-monthly (every two months) basis to monitor the oil's areal extent and thickness distribution.
- samples the groundwater in 15 monitoring wells around the facility's perimeter every six months to measure the distribution and concentration of dissolved phase hazardous constituents in the groundwater itself. (The 15 wells are included in the above 489 monitoring and oil observation wells.) Six (6) of these dissolved constituent monitoring wells are located directly along HOVENSA's northern "fence line" and are sampled every six months to insure that if dissolved hazardous constituents or oil were to migrate [upgradient] towards the Barren Spot well field, they would be detected;
- since 1994 has been constructing and implementing a major facility-wide groundwater/phase separated [i.e., oil]/dissolved phase modeling project to guide and assess the efficiency of the clean-up, and verify that hydraulic control is being maintained so as to prevent migration of the oil and dissolved constituent plumes off the HOVENSA site; and
- since 1994 has been implementing a recurring program of pressure testing, and

repair or replacement of all underground process sewers and hydrocarbon pipelines, as well a recurring program of internal inspection and testing of all hydrocarbon storage tanks at the facility, in order to prevent future underground releases.

Also under the RCRA operating permit, the groundwater at 5 operating waste management units (2 hazardous waste land treatment units, and 3 non-hazardous waste-water treatment lagoons) is being monitored semiannually in 20 wells to insure that any releases from those units are detected. In addition, the groundwater at 1 closed hazardous waste land treatment unit is being monitored semiannually in 8 wells, under a separate 1990 post-closure permit. (These 28 wells are in addition to the 489 monitoring and oil observation wells discussed previously).

In addition, 15 solid waste management units (SWMUs) have completed, or are still undergoing, investigation, and/or monitoring, and/or clean-up under the requirements of the RCRA permit. These SWMUs include 5 non-hazardous, non-operating landfills and/or waste piles. As part of these SWMU investigations and/or clean-ups, the groundwater in an additional 60 investigation wells [not included in the above 489] has been evaluated at least once for dissolved hazardous constituents as well as the presence of oil, but not on a recurring semiannual (every six months) basis. To date no unacceptable risks to off-site human or environmental receptors have been indicated by releases from these SWMUs, or the AOCs at the facility; though all pathways and exposures for all SWMUs and/or AOCs have not yet been fully defined and evaluated.

Permit Status

On May 26, 1999, EPA Public Noticed its intent to issue HOVENSA a renewed hazardous waste operating permit pursuant to Resource Conservation and Recovery Act (RCRA). The Public Comment period extended from May 26 through July 12, 1999. HOVIC obtained its original RCRA hazardous waste operating permit from EPA in 1988, authorizing the facility to continue operating Landfarms II and III for the land disposal/treatment of hazardous and nonhazardous petroleum refinery waste. Landfarm I has been closed and is regulated under a separate RCRA post-closure permit issued by EPA in 1990. The renewed Final RCRA Operating Permit was issued by EPA on September 30, 1999, and became effective as of November 1, 1999. This permit includes extensive corrective action requirements for the HOVENSA site.

The renewed Final Permit allows HOVENSA to operate three RCRA Hazardous Waste Management Units (HWMUs).



They are the two land treatment units (Landfarms II and III) and one hazardous waste container storage unit. The total area covered by each Landfarm is approximately 12 acres.

The hazardous waste container storage unit is located in the central part of the facility and accepts a wide variety of petroleum wastes, pending their shipment off-island for disposal and/or treatment at commercial hazardous waste treatment or disposal facilities, which are located in the U. S. mainland.

HOVENSA also has one closed HWMU (Landfarm I), which is subject to post-closure care and maintenance requirements, under a 1990 RCRA Post-Closure Permit.

In addition, three wastewater treatment lagoons (Surface Impoundments), which formerly managed hazardous waste, are subject to operating and monitoring



requirements under the November 1, 1999 renewed RCRA Permit, but are no longer authorized for management of hazardous waste.

Repository

Copies of supporting technical documents and correspondence cited in the fact sheet are available for public review at the following location:

U.S. Environmental Protection Agency, Region 2
RCRA Records Center
290 Broadway, 15th Floor, Room 1538
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